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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,271	12/03/2003	Mark D. Schaake	01925- P0230A	4892

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ST. ONGE STEWARD JOHNSTON & REENS, LLC  
986 BEDFORD STREET  
STAMFORD, CT 06905-5619

EXAMINER
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HAMO, PATRICK

ART UNIT	PAPER NUMBER
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3746

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/727,271

Applicant(s)

SCHAAKE, MARK D.

Examiner

Patrick Hamo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This action is in response to amendments filed February 26, 2007.

#### ***Claim Objections***

Claim 30 is objected to because of the following informalities: the claim fails to a provide a positive manipulative step. For purposes of examination, the claim is interpreted as the method of claim 27 "further comprising the step of mounting a water jacket on said housing."

#### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 6-11 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Collins, 2,246,932.

Collins discloses a pumping device or piston 6 disposed in a housing or cylinder 5 that serves as a piston channel, the cylinder including a plurality of inlets 9, 24 and outlets 11, 23 and two fluid chambers C1 and C2, fluid chamber C1 in fluid communication with inlet 9 and receiving fluid when the piston is moved towards the right in figure 1, fluid chamber C2 in communication with outlet 11, a conduit 25 which communicates fluid from chamber C1 to chamber C2 when the piston moves to the left in figure 1, a conduit 16 which communicates chamber C1 to the outlet, the left face of

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piston 6 defining part of chamber C1 and exerting a force on fluid in chamber C1 when the piston is moved towards the left, and the right face exerting a force on chamber C2 when moved to the right, a valve assembly 28 selectively sealing conduit 25 and allowing for flow in either direction (column 4, lines 38-60), actuated by a control element as shown in figure 3 in response to a threshold value of compressor fluids (column 6, lines 12-72), chamber C1 having a passage 23 for receiving and discharging fluid, the valve assembly located in this passage, and the two chambers C1 and C2 in fluid communication through this passage, but not when the device is in single-stage operation (column 4, lines 15-20).

Claim 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Pearce, 4,700,680.

Pearce discloses a two stage fuel pump operated by urging fluid into the pump via fluid passageway 64, compressing the fluid in a first pump stage 18, urging the compressed fluid through intermediate chamber 40 and fluid passageway 68 to a second pump stage 20 and, at low altitudes, also urging a portion through bypass passageway 42 to inlet chamber 12 where it may be urged through outlet 16 (col. 5, ll. 18-22), second pump stage 20 further compressing the fluid and urging the fluid so that it may ultimately be urged through outlet 16 (col. 2, ll. 61-64 and col. 5, ll. 25-28).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 4 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Braun, 4,111,609, and further in view of Mori, 6,817,838.

Collins discloses all the limitations substantially as claimed except for the following taught by Braun: a housing with a portion 11 that partially encloses a crankshaft and motor 15 eliminating external piping and providing a good appearing compressor (Abstract, lines 5-8); and the following taught by Mori: an oil seal 22 separating the drive shaft from the rest of the housing.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Collins with Braun and Mori in order to make the compressor more aesthetically pleasing (Braun, Abstract, lines 5-8).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Xin, 6,363,893.

Collins discloses all the limitations substantially as claimed except the following taught by Xin: a water jacket for a cylinder head for transferring heat from the cylinder head to a flowing coolant (Abstract, lines 1-3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Collins with Xin to cool the cylinder (Abstract, lines 1-3).

Claims 12, 17-20 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Bishop et al., 6,072,088.

Collins discloses all the limitations substantially as claimed except the following taught by Bishop: an electronically actuated outlet sealing valve opened and closed in response to electrical signals sent to it by a computer-regulated electric power supply, opening the valve to communicate the pump chamber with an outlet and closing to seal off the operation in response to feedback signals of the pressure (column 15, lines 3-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Collins with Bishop to make the pump self-actuated and hence more automated (column 2, lines 34-36).

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Bolthouse et al., 5,493,953.

Collins discloses all the limitations substantially as claimed except the following taught by Bolthouse: a wall plate 40 mounted on the head of a cylinder 42 sealing the pump chamber from a chamber below the piston (see figure 1), for the purpose of more stably guiding the piston in the housing (column 2, lines 11-13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Collins with Bolthouse to more stably guide the piston (column 2, lines 11-13).

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce. Pearce discloses all of the limitations of independent claim 28 from which claim 29 depends, but does not explicitly disclose that the step of compressing the fluid in the first compression area occurs when a piston is moved towards a first position, and the step of compressing the fluid in the second compression area occurs when a piston is moved towards a second position.

However, Pearce does disclose that preferably, the pumping stages are positive displacement vane pumps (col. 3, ll. 1-2) secured to a drive shaft and compressing as they rotate (col. 3, ll. 5-9), the vanes acting as pistons to compress the fluid. Fluid in the first compression area is compressed when the first piston is in a compressive position, and fluid in the second compression area is compressed when the second piston is in a compressive position, a compressive position (as opposed to an intake or suction position) being an obvious property of any pump.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce in view of Xin, 6,363,893.

Pearce teaches all the limitations substantially as claimed except the following taught by Xin: a water jacket for a cylinder head for transferring heat from the cylinder head to a flowing coolant (Abstract, lines 1-3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the pump of Pearce with the water jacket Xin to cool the pump cylinder (Abstract, lines 1-3).

### ***Response to Arguments***

Applicant's arguments filed February 26, 2007 in regards to claims 1 and 27 have been fully considered but they are not persuasive. Applicant's arguments with respect to claim 28 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues on page 11 of the response that "both claim 1 and claim 28 recite the feature of discharging some of the fluid in the first chamber out through the outlet port thereof, while, at the same time, communicating some of the fluid in that chamber to a second chamber for further compression." However, it appears applicant is arguing more than that which is claimed with respect to claim 1. Amended claim 1 recites "a second conduit by which fluid in said first fluid chamber is directly communicated to the outlet port when said pumping device is moved toward the second position and fluid in said first fluid chamber is communicated to said second chamber." There is no language in the claim to suggest that the communication of fluid to the outlet port and the communication of fluid to the second chamber necessarily occur simultaneously.



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Applicant argues on page 13 of the response that it would not have been obvious to one of ordinary skill in the art to have modified Collins' pump with Braun and Mori because "there is no disclosure or suggestion in Collins that the pump is even connected to a drive shaft, and therefore, there would be no motivation for one skilled in the art to employ a housing that accommodates such, much less an oil seal for sealing it off from the piston channel." However, Collins clearly discloses that "the piston may be connected, by means of its shaft 22, to any suitable source of power" (col. 2, ll. 19-20) and also discloses substantial external piping (for example conduits 12, 14, 16, 25) that would benefit aesthetically from being disposed in a housing as taught by Braun.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ANTHONY D. STASHICK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700